

## REMARKS

Favorable reconsideration and allowance of this application are requested.

### **1. Discussion of Claim Amendments**

The set of claims noted above are being presented so as to identify patentably distinct non-elected claims 10-15 as "withdrawn".

No substantive amendment has been made to any of the pending claims. As such, all claims remain as presented with the after-final amendment dated June 16, 2008. Allowance of claims 1-9 and 16-17 and the rejoinder of claims 10-15 upon such allowance are therefore requested.

### **2. Response to 35 USC §103(a) Rejections**

The only issue remaining to be resolved in this application is the Examiner's rejections of claims 1-3, 5-9 and 16-17 advanced under 35 USC §103(a) based on Cook '597 (USP 6,149,597) in view of WO 91/14029 (WO '029). Claim 4 has been rejected separately under this same statutory provision as allegedly being unpatentable over Cook '597 and WO '029 and further in view of JP 87015646 (JP '646). Applicants respectfully suggest that none of the applied publications is appropriate as a reference against the presently claimed invention.

As noted during previous prosecution to date, the present invention as defined by the pending claims herein is directed toward a process for making monofilament-like products wherein a precursor of indefinite length containing at least one strand comprised of a spun yarn of polyolefin **staple fibres** is exposed to a temperature within the melting point range of the polyolefin fibres for a time sufficient to soften the staple fibers **without partial melting** and allow adjacent staple fibers to **at least partly fuse** to one another. Simultaneously with such a processing step, the precursor is stretched at a draw ratio of at least 1.0. The resulting monofilament-like products having improved

abrasion resistance (as expressed in the number of cycles until breakage) and/or surprising high tensile strengths as compared to the initial spun yarn or a plied yarn made from such spun yarn and used as the precursor.

The effects of the present invention are surprising in that the abrasion resistance is improved by the use of **staple fibers** instead of continuous fibers. Specifically, as noted in the accompanying Declaration of Christian H.P. Dirks ("Dirks Declaration"), the improvement of the abrasion resistance effects of the monofilament-like fibers according to the claimed invention of the subject application are surprising since during abrasion resisting testing, the borders of the fused precursor filaments are expected to be the point of origin for fiber breakage. Staple fibers have of course more "borders" between one another as compared to continuous fibers. Therefore, even a skilled person in this art would expect that the abrasion resistance of monofilament-like fibers made from precursor **staple** fibers would be **worse than** monofilament-like fibers made from precursor **continuous** fibers.

As a result, the ordinarily skilled person would *not* be motivated to substitute precursor staple fibers for precursor continuous fibers in a monofilament-like fiber since to do so would result in an expected decrease – *not* increase – in abrasion resistance.

Further, as noted in the Dirks Declaration, the data in the originally filed specification demonstrate that improved abrasion resistance does in fact ensue for the monofilament-like fibers of the invention claimed in the '435 application as compared to Cook '597. Specifically, in Cook '597, the constructions of the braids are shown in Table I as being made from 4 gel spun UHMwPE continuous filaments having, for example, a density of 200 denier (ex. 2). A 200 denier roughly equals 222 dTex. The construction of the comparative experiment A in the subject application is indicated in Table 1 as "8 x 224/ 7.5" which means that the precursor is a braid made from 8 UHMwPE continuous yarns having a titre of 224 dTex braided with the tightness of 7.6 picks per centimeter.

In ex.2 of Cook '597, therefore, a braid is made from essentially the *same yarn* as the comparative experiment A in the subject application with the only difference being that the number of yarns present is 4 in Cook '597 and 8 in the comparative experiment in the '435 application. Since the number of the precursor filaments in Cook '597 is *smaller* as compared to the comparative experiment in the subject application (i.e., 4 viz. 8), the abrasion resistance of the product of Cook '597 would be expected to be *less than* the product of comparative experiment in the '435 application.

Therefore, using the data of the comparative experiment in the '435 application and the similarity to the filaments in Cook '597, it can be concluded that the examples of the present invention would show a significantly *higher abrasion resistance* as compared to the examples of Cook '597.

WO '029 does not cure the deficiencies of Cook '597 as noted above. In this regard, applicants note that WO '029 discloses a process for spinning a yarn from high molecular weight polyethylene staple fibers by adding other fibers such as aramid fibers. There is no suggestion or contemplation therein of the problems solved by the present invention. Instead, the entire object of WO '029 is to solve the problem relating to slipperiness of the high molecular weight polyethylene staple fibers in a process of spinning a yarn from high molecular weight polyethylene staple fibers. WO '029 proposes to address such a problem by spinning the staple fibers together with other fibers such as aramid fibers.

Therefore, even if the ordinarily skilled person might somehow consider combining Cook '597 and WO '029, the present invention would not be the result. Specifically, there would not be any suggestion and/or contemplation in such a combination of publications of providing a precursor of indefinite length containing at least one strand comprised of a spun yarn of polyolefin *staple fibres* is exposed to a temperature within the melting point range of the polyolefin fibres for a time sufficient to soften the staple fibers *without partial melting* and allow adjacent staple fibers to *at*

***least partly fuse*** to one another.

Therefore, even if combined Cook '597 and WO '029 would not render pending claims 1-3, 5-9 and 16-17 "obvious" under 35 USC §103(a). Therefore withdrawal of this rejection is therefore in order.

JP '646 is noted as disclosing generally a technique whereby a continuous multifilament yarn can be stretch-broken to obtain staple fibers. However, such a disclosure generally does not cure any of the deficiencies of Cook '597 and WO '029 as discussed above. Accordingly withdrawal of the rejection advanced against claim 4 under 35 USC §103(a) is also in order.

### **3. Fee Authorization**

The Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, in the fee(s) filed, or asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Account No. 14-1140.

Respectfully submitted,

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